DTC | C1249/49 | Open in Stop Light Switch Circuit

DESCRIPTION

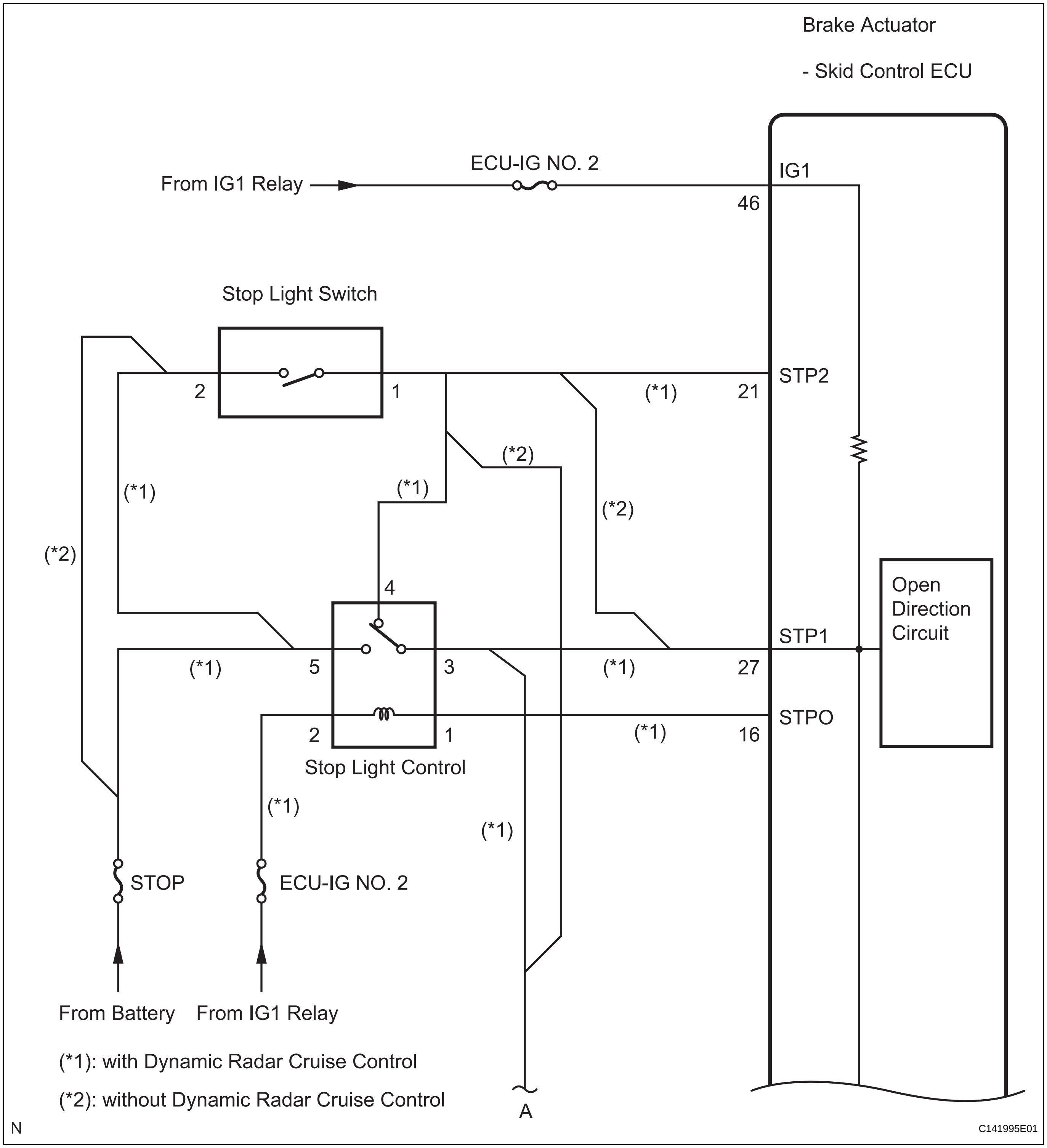
The skid control ECU (housed in the actuator assembly) inputs the stop light switch signal and the condition of brake operation.

The skid control ECU has an open detection circuit, which outputs this DTC when detecting an open in the stop light input line while the stop light switch is OFF.

DTC Code	DTC Detection Condition	Trouble Area
C1249/49	When IG1 terminal voltage is 9.5 to 17.2 V, an open circuit of the stop light switch continues for 0.3 seconds or more.	• STOP fuse • Stop light switch • Stop light switch circuit • Stop light control relay (*1) • Stop light control relay circuit (*1) • Brake actuator assembly (Skid control ECU)

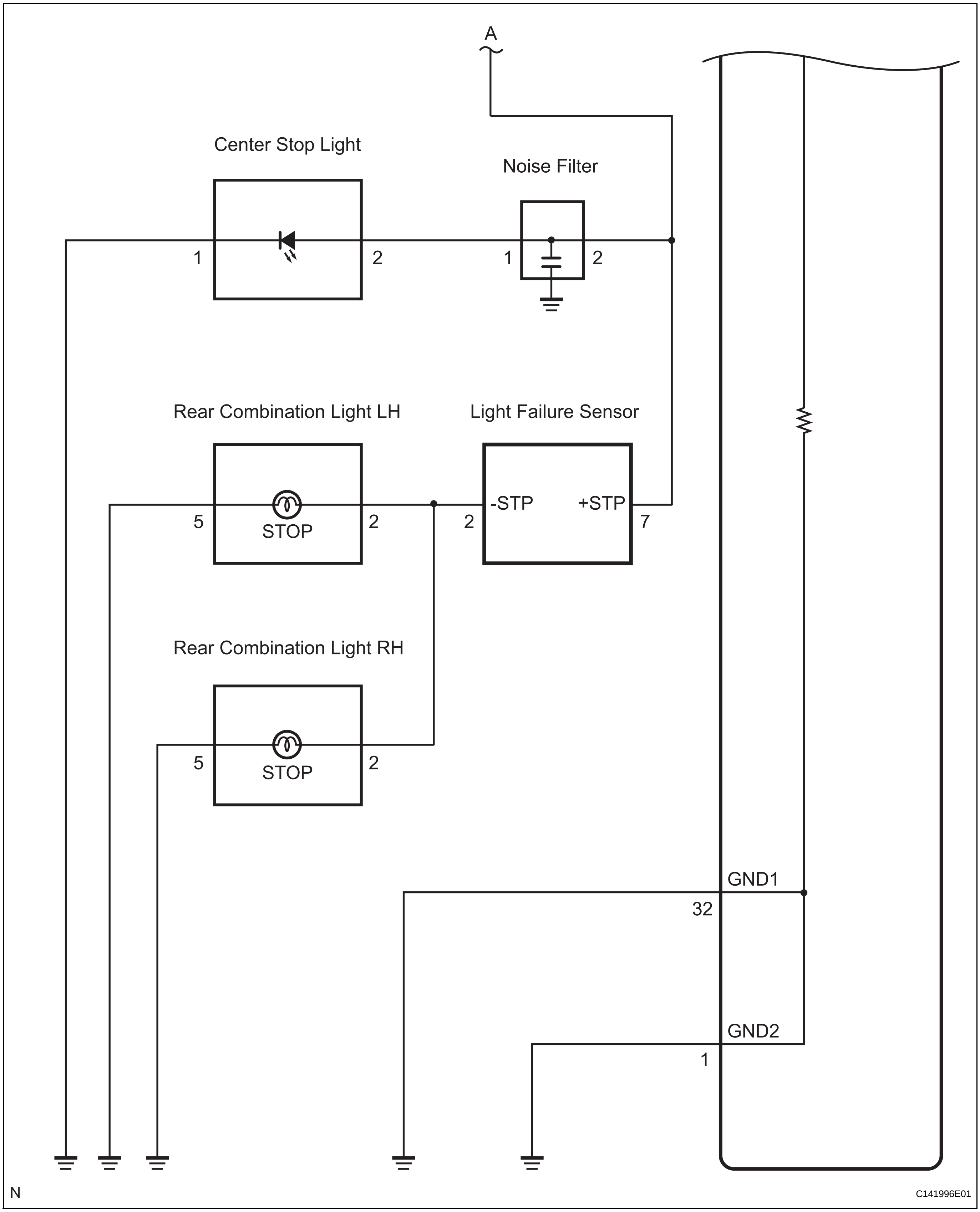
(*1): with dynamic radar cruise control

WIRING DIAGRAM



(*1): with Dynamic Radar Cruise Control

(*2): without Dynamic Radar Cruise Control

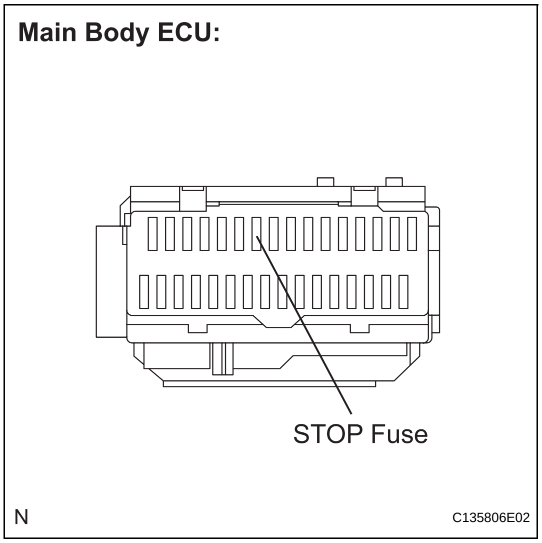


INSPECTION PROCEDURE

NOTICE:

When replacing the brake actuator assembly, perform zero point calibration (See page BC-20).

1 INSPECT STOP FUSE



(a) Remove the STOP fuse from the main body ECU.

(b) Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester Connection	Condition	Specified Condition
STOP (10 A) fuse	Always	Below 1 Ω

NG → **REPLACE STOP FUSE**

OK

2 CHECK STOP LIGHT OPERATION

(a) Install the STOP fuse.

(b) Check that the stop light comes on when the brake pedal is depressed, and goes off when the brake pedal is released.

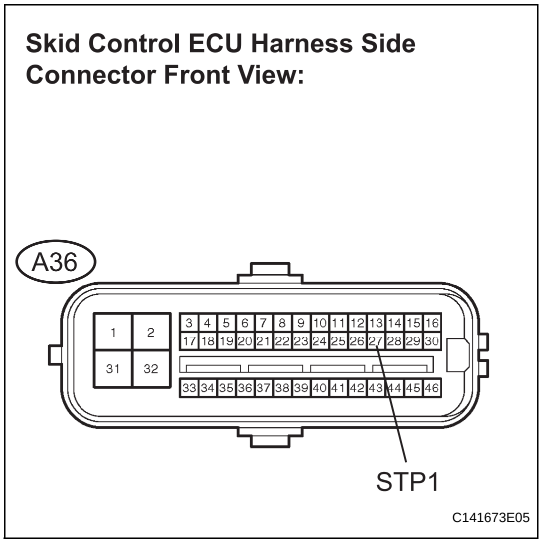
OK

Condition	Illumination Condition
Brake pedal depressed	ON
Brake pedal released	OFF

NG → **Go to step 7**

OK

3 INSPECT SKID CONTROL ECU (STP1 TERMINAL)


Skid Control ECU Harness Side Connector Front View:

(a) Disconnect the skid control ECU connector.

(b) Measure the voltage according to the value(s) in the table below.

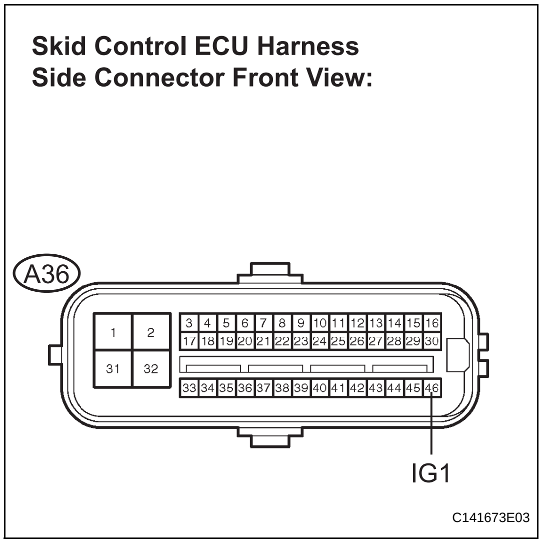
Standard voltage

Tester Connection	Condition	Specified Condition
A36-27 (STP1) - Body ground	Stop light switch ON (Brake pedal depressed)	8 to 14 V
A36-27 (STP1) - Body ground	Stop light switch OFF (Brake pedal released)	Below 1.5 V

NG **REPAIR OR REPLACE HARNESS OR CONNECTOR (STP1 CIRCUIT)**

OK

4 INSPECT SKID CONTROL ECU (IG1 TERMINAL)


Skid Control ECU Harness Side Connector Front View:

(a) Turn the engine switch on (IG).

(b) Measure the voltage according to the value(s) in the table below.

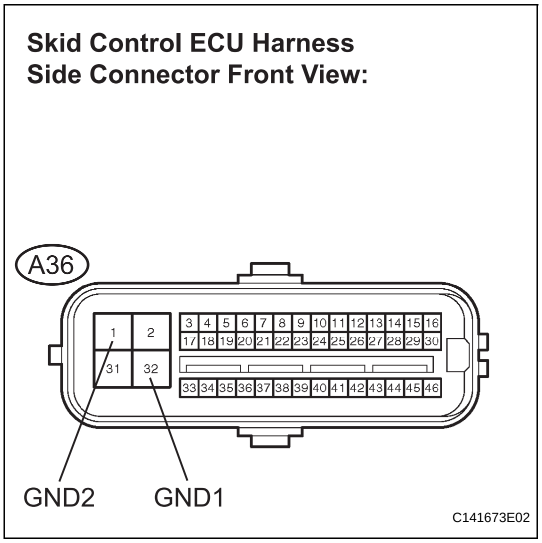
Standard voltage

Tester Connection	Condition	Specified Condition
A36-46 (IG1) - Body ground	Engine switch on (IG)	10 to 14 V

NG **REPAIR OR REPLACE HARNESS OR CONNECTOR (IG1 CIRCUIT)**

OK

5 INSPECT SKID CONTROL ECU (GND TERMINAL)



(a) Turn the engine switch off.

(b) Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester Connection	Condition	Specified Condition
A36-32 (GND1) - Body ground	Always	Below 1 Ω
A36-1 (GND2) - Body ground	Always	Below 1 Ω

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR (GND CIRCUIT)**

OK

6 RECONFIRM DTC

(a) Reconnect the skid control ECU connector.

(b) Clear the DTC (See page BC-43).

(c) Start the engine.

(d) Depress the brake pedal several times to test the stop light circuit.

(e) Check if the same DTC is recorded (See page BC-43).

Result

Condition	Proceed to
DTC (C1249/49) is not output	A
DTC (C1249/49) is output	B

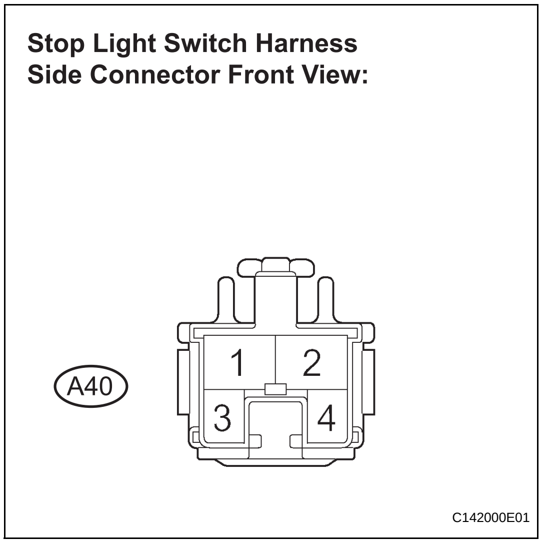
HINT:
If troubleshooting has been carried out according to the Problem Symptoms Table, refer back to the table and proceed to the next step (See page BC-35).

B → **REPLACE BRAKE ACTUATOR ASSEMBLY**

A

CHECK FOR INTERMITTENT PROBLEMS (SYMPTOM SIMULATION)

7 INSPECT STOP LIGHT SWITCH (POWER SOURCE TERMINAL)



(a) Disconnect the stop light switch connector.

(b) Measure the voltage according to the value(s) in the table below.

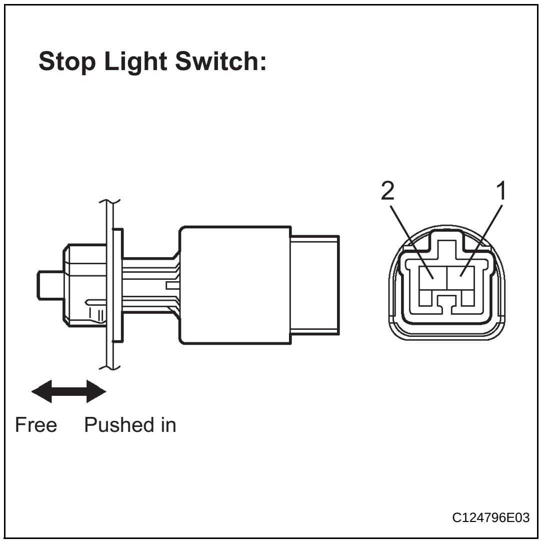
Standard voltage

Tester Connection	Condition	Specified Condition
A40-2 - Body ground	Always	10 to 14 V

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR (POWER SOURCE CIRCUIT)**

OK

8 INSPECT STOP LIGHT SWITCH



(a) Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester Connection	Condition	Specified Condition
1 - 2	Switch pin free	Below 1 Ω
1 - 2	Switch pin pushed in	10 kΩ or higher

Result

Result	Proceed to
OK (with dynamic radar cruise control)	A
OK (without dynamic radar cruise control)	B
NG	C

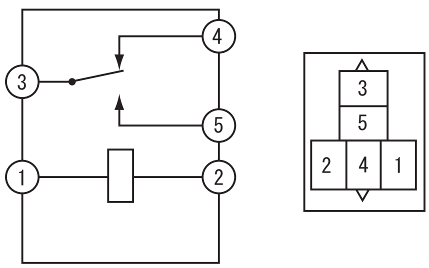
B → **Go to step 13**

C → **REPLACE STOP LIGHT SWITCH**

A

9 INSPECT STOP LIGHT CONTROL RELAY

Stop Light Control Relay:



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(a) Remove the stop light control relay.

(b) Measure the resistance according to the value(s) in the table below.

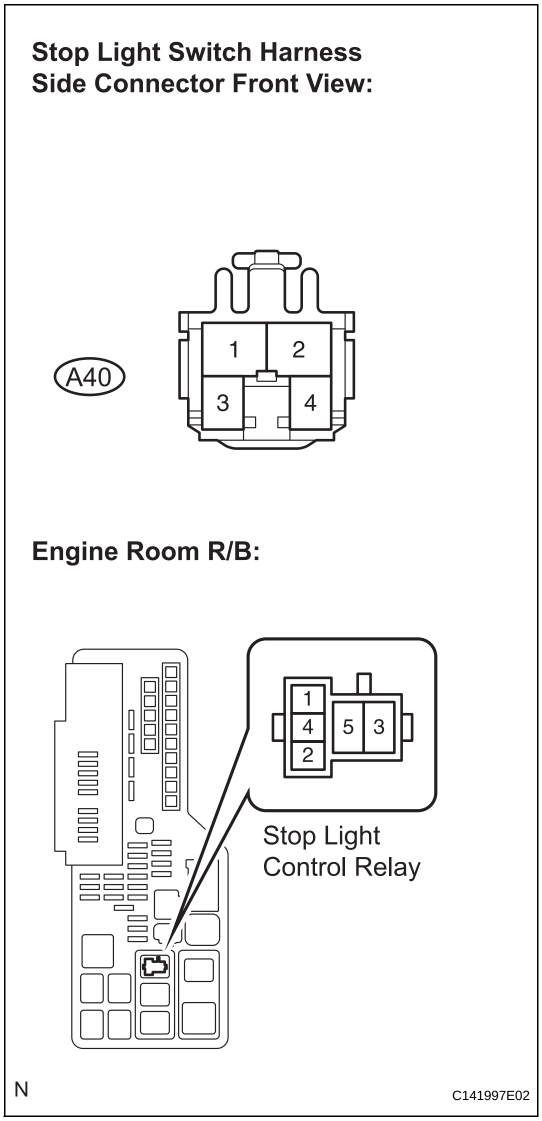
Standard resistance

Tester Connection	Condition	Specified Condition
3 - 4	Always	Below 1 Ω

NG **REPLACE STOP LIGHT CONTROL RELAY**

OK

10 CHECK HARNESS AND CONNECTOR (STOP LIGHT SWITCH - ENGINE ROOM RELAY BLOCK)



(a) Measure the resistance according to the value(s) in the table below.

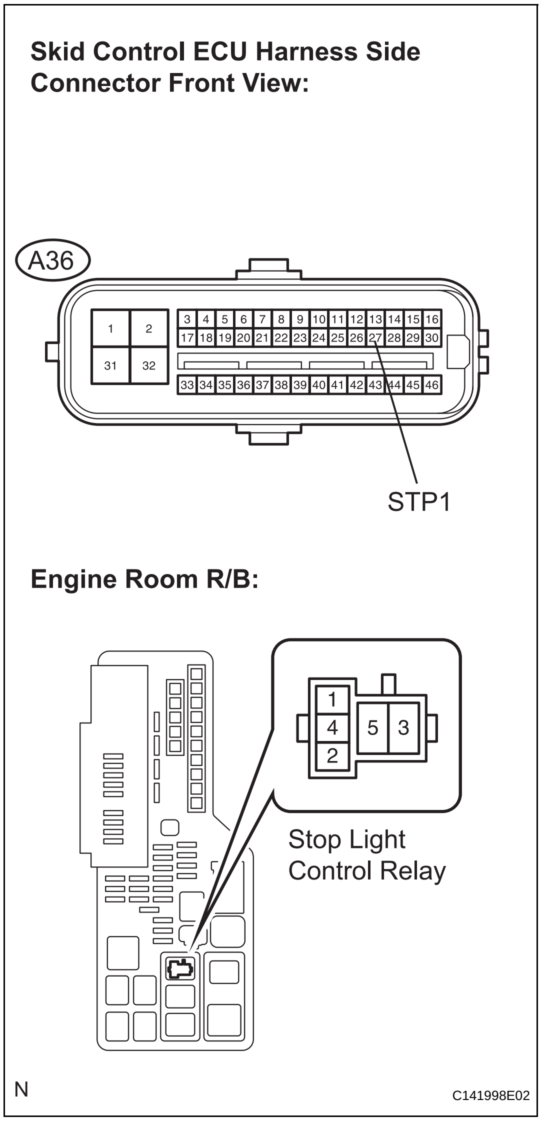
Standard resistance

Tester Connection	Condition	Specified Condition
A40-1 - Stop light control relay terminal 4	Always	Below 1 Ω
A40-1 - Body ground	Always	10 kΩ or higher

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

11 CHECK HARNESS AND CONNECTOR (SKID CONTROL ECU - ENGINE ROOM RELAY BLOCK)



(a) Disconnect the skid control ECU connector.

(b) Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester Connection	Condition	Specified Condition
A36-27 (STP1) - Stop light control relay terminal 3	Always	Below 1 Ω
A36-27 (STP1) - Body ground	Always	10 kΩ or higher

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

12 RECONFIRM DTC

(a) Clear the DTC (See page BC-43).

(b) Start the engine.

(c) Depress the brake pedal several times to test the stop light circuit.

(d) Check if the same DTC is recorded (See page BC-43).

HINT:

Reinstall the relay, connectors, etc. and restore the vehicle to its prior condition before rechecking for DTCs.

Result

Condition	Proceed to
DTC (C1249/49) is not output	A
DTC (C1249/49) is output	B

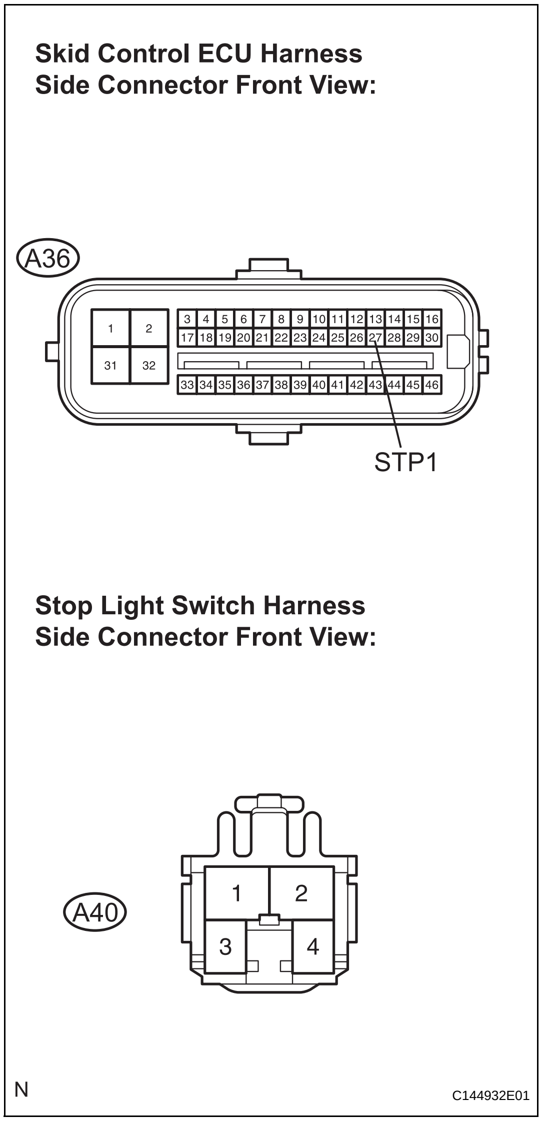
HINT:
If troubleshooting has been carried out according to the Problem Symptoms Table, refer back to the table and proceed to the next step (See page BC-35).

B **REPLACE BRAKE ACTUATOR ASSEMBLY**

A

INSPECT LIGHTING SYSTEM (STOP LIGHT CIRCUIT)

13 CHECK HARNESS AND CONNECTOR (SKID CONTROL ECU - STOP LIGHT SWITCH)



(a) Disconnect the skid control ECU connector.

(b) Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester Connection	Condition	Specified Condition
A36-27 (STP1) - A40-1	Always	Below 1 Ω
A36-27 (STP1) - Body ground	Always	10 kΩ or higher

NG **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

14 RECONFIRM DTC

(a) Reconnect the skid control ECU connector and the stop light switch connector.

(b) Clear the DTC (See page BC-43).
(c) Start the engine.
(d) Depress the brake pedal several times to test the stop light circuit.
(e) Check if the same DTC is recorded (See page BC-43).

Result

Condition	Proceed to
DTC (C1249/49) is not output	A
DTC (C1249/49) is output	B

HINT:
If troubleshooting has been carried out according to the Problem Symptoms Table, refer back to the table and proceed to the next step (See page BC-35).

B → **REPLACE BRAKE ACTUATOR ASSEMBLY**

A

INSPECT LIGHTING SYSTEM (STOP LIGHT CIRCUIT)